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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,162	04/20/2001	Jeffrey Richard Conrad	10006663-019	9023

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HEWLETT-PACKARD COMPANY
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EXAMINER

LIN, WEN TAI

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,162

Applicant(s)

CONRAD ET AL.

Examiner

Wen-Tai Lin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-7 and 10-19 are presented for examination.
2. The text of those sections of Title 35, USC code not included in this action can be found in the prior Office Action.
3. It is noted that, as indicated by Applicant, CDP stands for the name of a discovery protocol and any nodes that can be discovered by CDP may also be discovered by other protocol [see the paragraphs 20-22 of Applicant's specification] and since no specific definition regarding the "CDP node" is found in the specification, the name CDP associated with the discovered nodes is dropped from the prior art rejection in this office action.

Claim Rejections - 35 USC § 102

4. Claims 1-2, 10 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki [U.S. pat. No. 5796736].
5. Suzuki was cited in the previous office action.

6. As to claims 1-2, Suzuki teaches the invention as claimed including: a method of discovering nodes in a network in real time comprising:

seeding a discovery process using at least one of querying a user to provide a first node information and searching a database of nodes previously discovered by the network manager to identify the first node [e.g. col.10, line 35 – col.11 line 27; i.e., an NMS (whether it be directly connected to or outside the network), searches its cache for port-associated table (e.g., Fig.12 is a record of a cached database) from which a first node that is directly connected to the NMS is retrieved as a seed for the recovery process, wherein the first node is stored in the database local to the NMS];

transmitting a signal from a network manager to the first node of the network, wherein the signal requests information contained in a management information base of the first node regarding additional nodes known to the first node; receiving a response that identifies the additional nodes known to the first node [note that in Fig. 1 NMS-A is directly connected to SW1, which is deemed to be the first node that could start the discovery process, wherein SW1's MIB stored information about its neighbor nodes];

repeating the transmitting and receiving steps for each additional node identified [e.g., Figs. 13-14; col.10, line 36 – col.11, line 54]; and

storing a list containing addresses of all identified nodes [e.g., Fig.16].

7. As to claim 10, Suzuki teaches that the method further comprising: performing the discovery process based upon a user's request or at fixed time intervals [e.g., col.16, lines 28-37].

8. As to claim 14, Suzuki further teaches that the list further comprises at least one of information on the interrelation of the identified nodes, device identification information, and device type information [e.g., Fig.11].

9. As to claims 15-16, since the features of these claims can also be found in claims 1-2, 10 and 14, they are rejected for the same reasons set forth in the rejection of claims 1-2, 10 and 14 above.

10. Claims 1-2, 10-12 and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ahearn et al. (hereafter "Ahearn") [U.S. Pat. No. 5926463].

11. Ahearn was cited in the previous (first) office action.

12. As to claims 1-2, 10 and 15-16, Ahearn teaches the invention substantially as claimed including: a method of discovering nodes in a network in real time [Abstract; Fig.9] comprising:
seeding a discovery process by querying a user to provide a first node information [col.15, lines 24-25; note that the root node of the tree (or subtree) must have been supplied by a user otherwise the system (or program) would not know which part of the network is to be discovered];

transmitting a signal [e.g., an SNMP message] from a network manager to a first node of the network by querying a user to provide the first node information, wherein the signal requests information regarding additional nodes known to the first node [col.15, lines 40-54; i.e., by

default the IP Multicast MIB must contain information about other neighboring nodes connected to the first node otherwise the actual tree would not be discovered];

receiving a response that identifies the additional nodes known to the first node;
repeating the transmitting and receiving steps for each additional node identified; and
storing a list containing addresses of all identified nodes [note the above three steps are inherent in view of the teachings in lines 23 - 64].

13. As to claims 11-12, Aheran further teaches that the method further comprising:
displaying the identified nodes in a Graphical User Interface; and
modifying the list in real time to facilitate real time display of identified nodes as each node is identified, wherein the real time display is presented as a graphical topology of the network on a Graphical User Interface [col.21, line 64 - col.22, line 11; Figs. 1, 3-4, 8 and 12-13].

Claim Rejections - 35 USC § 103

14. Claims 3-7, 13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahearn et al. (hereafter "Ahearn") [U.S. Pat. No. 5926463].

15. As to claims 3-7, Ahearn does not specifically teach imposing limits on a depth and/or breadth search for additional nodes by establishing a maximum hop limit or a recursion depth limit.

However, Ahearn teaches including a maximum hop count field in a trace query to limit the number of hops traced before a response is returned [col.14, lines 32-37] and that a user is free to create a hierarchy of limitless depth (i.e., of any specified depth) to suit his/her needs, if such a representation is desirable [col.23, lines 9-26]. In light of this teaching, it is obvious that Ahearn method could also impose limitations on the size of the network (i.e., in depth and breadth), because this is a practical approach in dealing with a large network, wherein unrelated, distant nodes can be excluded from the discovery process.

16. As to claims 17-19, since the features of these claims can also be found in claims 1, 3-7 and 16, they are rejected for the same reasons set forth in the rejection of claims 1, 3-7 and 16 above.

17. As to claim 13, Ahearn does not specifically teach that the network manager is Network Node Manager, which is a network management tool from Hewlett-Packard.

However, it is well known in the art that a variety of network management tools are available for initiating the discovery of network configuration, monitoring, and graphically displaying the collected information. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the Network Node Manager may optionally be adopted as a network manager in Ahearn's system because it is a proven network management tool and employing an existing tool could save one from developing a new network manager.

18. Applicant's arguments filed on 4/17/2006 for claims 1-7 and 10-19 have been fully considered but they are not deemed to be persuasive.

Specifically, Applicant argues that neither Suzuki nor Ahearn teaches the limitation of (1) seeding a discovery process using at least one of querying a user to provide a first node information and searching a database of nodes previously discovered by the network manager to identify the first node; and (2) requesting information contained in a management information base (MIB) of the first node regarding additional nodes known to the first node.

With respect to point (1): it is noted that Suzuki shows that Fig.12 is a record of a cached database storing information about the first node that is directly connected to the NMS and could be retrieved as a seed for the recovery process.

With respect to point (2): it is noted that in Suzuki's Fig. 1 NMS-A is directly connected to SW1, which is deemed to be the first node that could start the discovery process, wherein SW1's MIB stored information about its neighbor nodes].

With respect to Ahearn's teaching about points (1) and (2), see paragraph 12 of the instant office action.

Conclusion

Examiner note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from

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the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the contest of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (571)272-3969. The examiner can normally be reached on Monday-Friday(8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571)272-3964. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:


(571)273-8300 for official communications; and

(571)273-3969 for status inquires draft communication.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wen-Tai Lin

May 26, 2006


5/26/06